

AMENDMENTS TO CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A pattern forming method characterized by forming a mask having pattern-forming openings on a workpiece surface, and then supplying and solidifying an electrically conductive liquid pattern material in the pattern-forming openings of the mask.

2. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a conductive liquid-pattern material to ~~the said~~ pattern-forming openings while also drying ~~the said~~ conductive liquid-pattern material to produce dried solute;

c) a process for removing ~~the said~~ mask from ~~the said~~ workpiece; and

d) an annealing process for annealing said dried solute of the liquid-pattern material.

3. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a conductive liquid-pattern material to ~~the said~~ pattern-forming openings;

c) a drying process for evaporating solvent ~~in from~~ the liquid-pattern material to produce dried solute;

d) a mask removal process for removing ~~the said~~ mask from ~~the said~~ workpiece; and

e) an annealing process for annealing said dried solute ~~in the liquid-pattern material.~~

4. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying an electrically conductive liquid-pattern material to the pattern-forming openings;

c) a solidifying process for solidifying ~~the said~~ liquid-pattern material supplied into ~~the said~~ pattern-forming openings; and

d) a mask removal process for removing ~~the said~~ mask from ~~the said~~ workpiece after sequentially ~~performing repeating~~ plural times in succession ~~the said a)~~ pattern material supply process and ~~c)~~ solidifying process.

5. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a liquid-pattern material to the pattern-forming openings without submerging said workpiece surface in said liquid-pattern material;

c) an adherent-liquid removal process for removing liquid pattern material that adhered to the mask surface when the liquid-pattern material was supplied to the openings;

d) a drying process for producing dried solute in the pattern-forming openings ~~drying~~ by evaporating solvent from the liquid-pattern material ~~in the pattern-forming openings;~~

e) an annealing process for annealing ~~the said~~ dried solute after sequentially performing plural times ~~the said b)~~ pattern material supply process, ~~c)~~ adherent-liquid removal process, and ~~d)~~ drying process; and

f) a mask removal process for removing ~~the said~~ mask from the workpiece following process e).

6. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a liquid-pattern material to the pattern-forming openings;

c) a drying process for producing dried solute ~~drying~~ by evaporating solvents from the liquid-pattern material in the pattern-forming openings; and

d) an annealing process for annealing ~~the said~~ dried solute after sequentially performing plural times ~~the said b)~~ pattern material supply process and c) drying process.

7. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying an electrically conductive liquid-pattern material to the pattern-forming openings, wherein elements of said liquid-pattern material adhered to said mask surface during the supplying of liquid-pattern material to the pattern-forming openings;

c) a solidifying process for solidifying ~~the said~~ liquid-pattern material supplied into ~~the said~~ pattern-forming openings, and solidifying said elements of said liquid-pattern material adhered to said mask surface;

d) a solid-material removal process for removing ~~the~~ solidified elements of the liquid-pattern material that adhered to the mask surface ~~when the liquid-pattern material was supplied to the pattern-forming openings;~~ and

e) a mask removal process for removing ~~the said~~ mask from ~~the said~~ workpiece after sequentially performing plural times ~~the said b)~~ pattern material supply process, c) solidifying process, and d) solid-material removal process.

8. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a liquid-pattern material to ~~the said~~ mask openings, wherein pattern-forming material further adheres onto the mask surface during the supplying of liquid-pattern material to the pattern-forming openings;

c) a drying process for producing dried solids ~~drying~~ by evaporating solvent from the liquid-pattern material in ~~the said~~ pattern-forming openings and on the mask surface;

d) a solid-material removal process for removing dried solids of the liquid-pattern material that adhered ~~to~~ on the mask surface when the liquid-pattern material was supplied to the pattern-forming openings;

e) an annealing process for annealing the dried solute in said pattern-forming openings after sequentially performing plural times ~~the said b)~~ pattern material supply process, c) drying process, and d) solid-material removal process; and

f) a mask removal process for removing ~~the said~~ mask from the workpiece after said e) annealing process.

9. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a liquid-pattern material to ~~the said~~ mask openings, wherein pattern-forming material further adheres onto the mask surface during the supplying of liquid-pattern material to the pattern-forming openings;

c) a drying process for producing dried solids ~~drying~~ by evaporating solvent from the liquid-pattern material in ~~the said~~ pattern-forming openings and on the mask surface;

d) a solid-material removal process for removing the dried solids from the mask surface ~~of the liquid-pattern material that adhered to the mask surface when the liquid-pattern material was supplied to the pattern-forming openings~~;

e) an annealing process for annealing the dried ~~solute~~ solids in said pattern-forming opening; and

f) a mask removal process for removing ~~the said~~ mask from ~~the said~~ workpiece after sequentially performing plural times ~~the said b)~~ pattern material supply process, c) drying process, d) solid-material removal process, and e) annealing process.

10. (Currently Amended) ~~A~~ The pattern forming method ~~as described in~~ of claim 1, wherein ~~the said~~ mask has hydrophobic properties on at least the surface thereof for repelling ~~the said~~ liquid pattern material.

11. (Currently Amended) ~~A~~ The pattern forming method ~~as described in~~ of claim 1, wherein ~~the said~~ mask is hydrophobic for repelling ~~the said~~ liquid pattern material.

12. (Currently Amended) ~~A-The pattern forming method as described in of claim 1, wherein ~~the~~ said liquid-pattern material is solidified through evaporation by applying heat.~~

13. (Currently Amended) ~~A-The pattern forming method as described in of claim 12, wherein heating and solidifying ~~the~~ said liquid-pattern material comprises a drying process for producing dried solute by evaporating solvent ~~in from~~ the liquid pattern material, and an annealing process for annealing ~~the~~ said dried solute.~~

14. (Currently Amended) ~~A-The pattern forming method as described in of claim 1, wherein ~~the~~ said mask is removed from ~~the~~ said workpiece after solidifying ~~the~~ said liquid pattern material.~~

15. (Currently Amended) ~~A-The pattern forming method as described in of claim 1, wherein:~~

~~the said liquid-pattern material is solidified after removing liquid-pattern material that adhered to the mask surface when the liquid-pattern material was supplied to the pattern-forming openings.~~

16. (Currently Amended) ~~A-The pattern forming method as described in of claim 6, wherein ~~the~~ said d) annealing process is performed after removing ~~the~~ said mask from ~~the~~ said workpiece.~~

17. (Currently Amended) ~~A-The pattern forming method as described in of claim 6, wherein ~~the~~ said mask is removed from the workpiece after ~~the~~ said d) annealing process.~~

18. (Currently Amended) ~~A-The pattern forming method as described in of claim 2, wherein ~~the~~ said c) process for removing ~~the~~ said mask and ~~the~~ said d) annealing process are performed simultaneously.~~

19. (Currently Amended) A pattern forming method comprising:

a) ___ a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) ___ a pattern material supplying process for supplying a liquid-pattern material to ~~the~~ said pattern-forming openings while also drying ~~the~~ said liquid-pattern material to produce dried solute;

c) an annealing process for annealing said dried solute ~~of the liquid-pattern material~~; and

d) a process for removing ~~the~~ said mask from ~~the~~ said workpiece.

20. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a liquid-pattern material to ~~the~~ said pattern-forming openings;

c) a drying process for producing dried solute by evaporating solvent in the liquid-pattern material;

d) an annealing process for annealing said dried solute ~~in the liquid-pattern material~~; and

e) a mask removal process for removing ~~the~~ said mask from ~~the~~ said workpiece.

21. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a liquid-pattern material to ~~the~~ said pattern-forming openings, wherein liquid-pattern material adheres to the mask surface during said supplying of liquid-pattern material to said pattern-forming openings;

c) an adherent-liquid removal process for removing liquid-pattern material that adhered to the mask surface when the liquid-pattern material was supplied to the pattern-forming openings;

d) a drying process for producing dried solute ~~drying~~ by evaporating solvent in from liquid-pattern material in the pattern-forming openings;

e) a mask removal process for removing ~~the~~ said mask from ~~the~~ said workpiece after sequentially performing plural times ~~the~~ said b) pattern material supply process, c) adherent-liquid removal process, and d) drying process; and

f) an annealing process for annealing ~~the~~ said dried solute.

22. (Currently Amended) A pattern forming method comprising:

a) a mask forming process for forming a mask having pattern-forming openings on a workpiece surface;

b) a pattern material supplying process for supplying a liquid-pattern material to ~~the said~~ mask openings, wherein liquid-pattern material adheres onto the mask surface during the supplying of liquid-pattern material to the pattern-forming openings;

c) a drying process for producing dried solids in the pattern-forming openings and on the mask surface ~~drying~~ by evaporating solvent from the liquid-pattern material ~~in the pattern forming openings;~~

d) a solid-material removal process for removing dried solids ~~of the liquid-pattern material that adhered to~~ from the mask surface ~~when the liquid-pattern material was supplied to the pattern forming openings;~~

e) a mask removal process for removing ~~the said~~ mask from ~~the said~~ workpiece after sequentially performing plural times ~~the said~~ b) pattern material supply process, c) drying process, and d) solid-material removal process; and

f) an annealing process for annealing the dried solute produced in the pattern forming openings.

23-64. (Cancelled)

65. (New) The pattern forming method of claim 1, wherein said liquid pattern material is a solution having a conductive solute dissolved in a solvent, and said solidifying of said liquid pattern material includes recovering said conductive solute from said solution.

66. (New) The pattern forming method of claim 1, wherein said conductive solute is recovered from said solution by evaporating said solvent.

67. (New) The pattern forming method of claim 1, said electrically conductive liquid pattern material is supplied to said pattern forming opening of said mask without submerging said workpiece in said electrically conductive liquid pattern material.

68. (New) The pattern forming method of claim 1, wherein said electrically conductive liquid pattern material is selectively supplied to said pattern forming opening of said mask by use of a specific-volume discharge device.

69. (New) The pattern forming method of claim 68, wherein said specific-volume discharge device is a print head of an inkjet printer.